SPECIFICATION

Please amend the specification with the following replacement paragraphs numbered according to the published application:

[0002] The present invention generally relates to a scanning device, and more particularly to a scanning device ~~have~~ having an adjustable ~~the~~ image amplification of a lens to obtain the correct image data.

[0004] Flatbed scanning ~~device~~ devices are widely used with computer systems for converting printed data into image signals. An optical scanning module is the most important component of the flatbed-scanning device. The optical scanning module commonly comprises a housing with an opening for receiving the imaged light that is transmitted from a document sheet, an optical sensor (or photosensor) installed inside the housing for converting the image light into corresponding image signals, and a plurality of lenses for focusing the image light onto the optical sensor.

[0005] The optical scanning module has a fixed resolution that is determined by the image amplification of the optical scanning module and the resolving power of the optical sensor. The image amplification of the optical scanning module is dependent on its lens, the object distance between the document sheet and lens, and the image distance between the lens and optical sensor. If errors of the object and the image distances are generated during the installation of the scanning module, the resolution of the optical scanning module will be affected.

[0006] As user demand improved image quality, achieving fewer amplification errors within the optical scanning module becomes an important issue. Most lenses and reflective ~~mirror~~ mirrors of the optical scanning module have some production errors, and further positioning errors during installation of components often occur.

[0007] In the conventional scanning device, ~~due to~~ the image amplification of the lens is fixed

such that the image amplification cannot be adjusted. The total optical length would be shrunk while the chassis moved forward; on the contrary, when the chassis moved toward the back, the total optical length would be increased, wherein the chassis ~~with~~ includes the lens, mirror, and CCD board. Thus, the image amplification is different between two moving ~~type~~ types of chassis, such that the image would not be focused on the CCD board to generate the loss focus length issue.

[0008] It is an object of the present invention, that the photosensor and lens are moved out of the chassis, and placed on the housing of the scanning device to reduce the volume of the chassis within the scanning device.

[0009] It is another object of the present invention, ~~which~~ that the modified imaged data can be obtained by adjusting the image amplification of the lens.

[0010] According to abovementioned objects, the present invention provides a device to adjust the image amplification of the lens. The device comprises a lens and a photosensor both placed on the housing of the scanning device. When the chassis is moved front and rear, the mirror, the lens, and the photosensor will follow the shift position of the chassis to adjust the angle, such that the image can be focused on the photosensor.

[0019] Referring to FIG. 1A, which shows the top view of the scanning device 10. The reference number 12 is housing of the scanning device; the reference number 14 is scan window; the reference number 18 is first mirror within the chassis 16, which used to reflect the illuminating light from the document sheet after scanning to the second mirror 20. In the present invention, the lens 22 and the photosensor 24 such as CCD (charge-coupled device) board are moved out of the chassis 16 and placed ~~18 to place~~ on the housing 12. Thus, the volume of chassis 16 ~~18~~ can be diminished to reduce the thickness of the scanning device 10. In addition, the reference number 26 is first optical path that has a distance **a** between the first mirror 18 and the second mirror 20 after scanning document sheet, and reference number 28 is second optical path that has a distance **b** between the second mirror 20 and the lens 22. Then, the image will reflect to the

lens 22 and focus the image on the CCD board 24.

[0020] Referring to FIG. 1B, which is projection schematic of the FIG. 1A. The reference number 30 is document sheet; the symbol **a** represents a distance of the first optical 26, which is between the first mirror 18 to the second mirror 20, wherein the distance **a** of the first optical path 26 is variable and the distance **a** exhibits the linear variation, and the symbol **b** represents a distance of the second optical path~~, which is~~ 28 between the ~~first mirror 18~~ second mirror 20 to the lens 22. When the chassis 16 is moved toward the back, the optical path of the TT (total track) will be increased. When~~, or~~ the chassis 16 is moved forward, the optical path of the TT would be shrunk. The image amplification of the lens 22 is different during the chassis 16 moved front and rear to cause the scanning image size ~~is~~ to be different from the original document sheet, wherein the optical path of the TT is the distance **a** of the first optical path 26 plus the distance **b** of the second optical path 28.

[0021] Thus, the present invention provides a device to solve the problem of the scanning image size being ~~is~~ different from the original document sheet. In the preferred embodiment, the lens 22 and CCD board 24 are placed on the housing 12, such that the length **b** between the lens 22 and the second ~~first~~ mirror 20 ~~18~~ is fixed. When the chassis 16 moved front and rear, the second ~~first~~ mirror 20 ~~18~~, lens 22, and CCD board 24 will follow the shift position of the chassis 16 to adjust the angle, such that the image can be focused on the CCD board 24 completely.

[0022] Referring to FIG. 2, which represents that the document sheet 40 is scanned to form an ~~imaging~~ image 42 with the size that is different from the original document sheet 40, and modified the ~~imaging~~ image 42 to form a modified ~~imaging~~ image 44 with the same size as the original document sheet 40. During the scanning document sheet process 41, the document sheet size should be smaller than the focal depth of the lens 22 to form the ~~imaging~~ image 42, such that the ~~imaging~~ image would not ~~be loss~~ lose the focal length, when the ~~imaging project~~ image is projected to the CCD board 24. Then, in the preferred embodiment of the present invention, the scanning image 42 can be modified by a modification method 43 to adjust the image amplification of the lens 22, herein, the change of the image amplification of the lens 22 is based

on the total length TT of the optical path. Therefore, the ~~imaging~~ image can be focused completely on the CCD board 24 and would not be changed by different length of TT. Thus, the image size would be the same as the original document sheet after the modification process.

[0023] Furthermore, the present invention provides a method to adjust the image that is focused on the CCD board. Referring to FIG. 3, which shows the x-y coordinate schematic, the x-coordinate denotes the distance, which represents the width of the A4 document sheet size, and the y-coordinate denotes the distance, which denotes the length of the A4 document size. The area of the trapezoid-shaped region 50 ~~is a scanning~~ represents the scanned imaging size after the scanning process 41. Owing to the image amplification of the lens 22, the ~~scanning~~ scanned imaging size is different from the original document sheet 40. Furthermore, comparing the ~~scanning~~ scanned imaging size and the original document sheet 40, the ~~scanning~~ scanned imaging size lacks ~~of~~ the triangular region 52, which is illustrated between the upper dotted line and the trapezoid-shaped region 50. Therefore, the present invention ~~utilized~~ utilizes the distance **a** of the first optical path 26 which is linearly varied ~~linear variation~~, thus, the trapezoid-shaped 50 is added to the triangular region 52 ~~a linear ratio~~ to modify the ~~scanning imaging~~ scanned image 42 to form the modified ~~imaging~~ image 44 that has the same imaging size ~~as well~~ as the original document sheet 40.